IMPROVED METHOD TO MEASURE GLARE & REFLECTED SOLAR IRRADIANCE

TECHNOLOGY READINESS LEVEL: 9

THIS TECHNOLOGY IS IN FINAL FORM AND HAS BEEN PROVEN TO WORK IN ITS FIELD OF USE UNDER EXPECTED CONDITIONS.

US PATENT PENDING

TECHNOLOGY SUMMARY

Sandia has developed a cheap, efficient, and accurate method of measuring the irradiance from solar reflections using a digital camera. Measurements of reflected solar irradiance is of great importance to industry, military, and government agencies to assess potential impacts of glint and glare from growing numbers of solar power installations around the world. In addition, this measurement technique can be used to monitor and maintain system performance for concentrating solar power applications.

This disclosure also covers the development of a web-based tool that allows users to upload images of the sun and reflection to automatically calculate the irradiance distributions and the potential impact of glare. Current methods use moving wands which are more expensive and require more complex machinery and operating procedures.

POTENTIAL APPLICATIONS

- Concentrated Solar Power
- Electric Utility
- Photovoltaics
- Public Safety

TECHNOLOGICAL BENEFITS

- Significantly cheaper, faster and easier to implement than current methods
- Can be used to help monitor and maintain system performance for concentrating solar power applications
- Can be coupled with a Sandia-developed web-based tool that will calculate irradiance distribution and potential glare impact

TECHNOLOGY INQUIRY?

For more information or licensing opportunities contact us at

ip@sandia.gov

Refer to SD # 11722

or visit

https://ip.sandia.gov

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